

Figure 1

An amino acid sequence of human, type I, IMPDH protein

IMPDH = INOSINE-5'-MONOPHOSPHATE DEHYDROGENASE 1
514 residues

MADYLISGGT GYVPEDGLTA QQLFASADDL TYNDLILPG FIDFIADEV
LTSALTRKIT LKTPLISSPM DTVTEADMAI AMALMGGIGF IHHNCTPEFQ
ANEVRKVKNF EQGFITDPVV LSPSHTVGDV LEAKMRHGFS GIPITETGTM
GSKLVGIVTS RDIDFLAEKD HTTLLSEVMT PRIELVVAPA GVTLKEANEI
LQRSKKGKLP IVNDCDELVA IIARTDLKKN RDYPLASKDS QKQLLCGAAV
GTREDDKYRL DLLTQAGVDV IVLDSSQGNS VYQIAMVHYI KQKYPHLQVI
GGNVVTAAQA KNLIDAGVDG LRVGMGCGSI CITQEVMACG RPQGTAVYKV
AEYARRFGVP IIADGGIQTV GHVVKALALG ASTVMMGSL L AATTEAPGEY
FFSDGVRLKK YRGMGSLDAM EKSSSSQKRY FSEGDKVKIA QGVSGSIQDK
GSIQKFVPYL IAGIQHGCQD IGARSLSVLR SMMYSGELKF EKRTMSAQIE
GGVHGLHSYE KRLY

0053918-051001

Figure 2

An amino acid sequence of human, type II IMPDH protein

IMPDH = INOSINE-5'-MONOPHOSPHATE DEHYDROGENASE 2
514 residues

The underlined region correlates with the subdomain region

MADYLISGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALTKKIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY EQGFITDPVV LSPKDRVRDV FEAARHGFC GIPITDTGRM
GSRLVGIISS RDIDFLKEEE HDCFLEEIMT KREDLVVAPA GITLKEANEI
LQRSKKGKLP IVNEDDELVA IIARTDLKKN RDYPLASKDA KKQLLCGAAI
GTHEDDKYRL DLLAQAGVDV VVLDSSQGNS IFQINMIKYI KDKYPNLQVI
GGNVVTAAQA KNLIDAGVDA LRVGMGSGSI CITQEVLAGC RPQATAVYKV
SEYARRFGVP VIADGGIQNV GHIAKALALG ASTVMMGSLI AATTEAPGEY
FFSDGIRLKK YRGMGSLDAM DKHLSSQNRY FSEADKIKVA QGVSGAVQDK
GSIHKFVPYL IAGIQHSCQD IGAKSLTQVR AMMYSGELKF EKRTSSAQVE
GGVHSLHSYE KRLF

0053918-051001

FIGURE 3

The Subdomain of Wild-Type, Human, and Type II IMPDH is Replaced with an Oligo-Peptide

Met-1	Tyr-110	Leu-243	Phe-514
		oligo peptide	

Figure 4

The amino acid sequence of the modified IMPDH-DKT polypeptide 384 residues.

The substitute tri-peptide DKT sequence is highlighted in bold print

MADYLISGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALTKKIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY **DKT**LLCGAAI GTHEDDKYRL DLLAQAGVDV VULDSSQGNS
IFQINMIKYI KDKYPNLQVI GGNVVTAQA KNLIDAGVDA LRVGMGSGSI
CITQEVLAGG RPQATAVYKV SEYARRFGVP VIADGGIQNV GHIKALALG
ASTVMMGSL L AATTEAPGEY FFSDGIRLKK YRGMGSLDAM DKHLSSQNRY
FSEADKIKVA QGVSGAVQDK GSIHKFVPYL IAGIQHSCQD IGAKSLTQVR
AMMYSGELKF EKRTSSAQVE GGVHSLHSYE KRLF

005518-01001
FOOT-50" 8T55560

Figure 5

The nucleotide sequence of type II, IMPDH-DKT cDNA

atggccgactacctgattagtgggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaactgcgagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagaccccactggtttctctcccatg
gacacagtcacagaggctgggatggccatagcaatggcgcttacaggcggtattggcttcacccaca
actgtacacctgaattccaggccaatgaagttcggaagtgagaaaatagacaagaccctgctgtgtgg
ggcagccattggcactcatgaggatgacaagtataggctggacttgctcgcccaggctgggtgtggatga
gtgggtttggactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagacaaat
accctaattctcoaagtcattggaggcaatgtggtcactgctgccaggccaagaacctcattgatgcagg
tgtggatgccttgcgggtgggcatgggaagtggctccatctgcattacgcaggaagtgtgctggcctgtggg
cggccccaagcaacagcagtgtaaaaggtgtcagagtatgcacggcgctttgggtgttcgggtcattgctg
atggaggaatccaaaatgtgggtcatattgcgaagccttggcccttggggcctccacagtcattgatggg
ctctctcctggctgccaccactgaggccctgggaatacttctttccgatgggatccgggctaaagaaa
tatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatttcagtgaag
ctgacaaaatcaaagtggcccaggagtgctggtgctgtgcaggacaaagggtaatccacaaatttgt
cccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgacccaagtccga
gccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaaggtggcgctc
atagcctccattcgtatgagaagcggcttttctga

09053918.051001

Figure 6

The amino acid sequence of the modified IMPDH-SPS
polypeptide 384 residues.

The substitute tri-peptide SPT sequence is highlighted in
bold print.

MADYLISGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALTKKIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY **SPS**LLCGAAI GTHEDDKYRL DLLAQAGVDV VVLDSSQGNS
IFQINMIKYI KDKYPNLQVI GGNVVTAQA KNLIDAGVDA LRVGMGSGSI
CITQEVLAGG RPQATAVYKV SEYARRFGVP VIADGGIQNV GHIKALALG
ASTVMMGSLI AATTEAPGEY FFSDGIRLKK YRGMGSLDAM DKHLSSQNRV
FSEADKIKVA QGVSGAVQDK GSIHKFVPYL IAGIQHSCQD IGAKSLTQVR
AMMYSGELKF EKRTSSAQVE GGVHSLHSYE KRLF

0953918-051001

FIGURE 7

The nucleotide sequence of type II, IMPDH-SPS cDNA

atggccgactacctgattagtggtggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaactgctggagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagaccccactggtttctctcccatg
gacacagtcacagaggtggtggatggccatagcaatggcgcttacaggcggtattggcttcatccaccaca
actgtacacctgaattccaggccaatgaagttcggaagtgaaagaaatattctccgagcctgctgtgtgg
ggcagccattggcactcatgaggatgacaagtataggctggacttgctcgcccaggctggtgtggatgta
gtggttttggactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagacaaat
accctaattctcaagtcattggaggcaatgtggtcactgctgccaggccaagaacctcattgatgcagg
tgtggatgccctgcgggtgggcatgggaagtggctccatctgcattacgcaggaagtgtggcctgtggg
cggcccaagcaacagcagtgtaaggtgtcagagtatgcacggcgctttgggtgttccgggtcattgtctg
atggaggaaatccaaaatgtgggtcatattgcgaaagccttggcccttggggcctccacagtcattgatggg
ctctctcctggctgccaccactgaggccctggtgaatacttcttttccgatgggatccggctaaagaaa
tatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatttcagtgaag
ctgacaaaatcaaagtggcccaggagtgctgtggtgctgtgcaggacaaagggccaatccacaaatttgt
cccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgacccaagtccga
gccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaaggtggcgctcc
atagcctccattcgtatgagaagcggttttctga

0953918-051001

Figure 8

The amino acid sequence of the type II, modified IMPDH-GSG polypeptide

The substitute tri-peptide GSG sequence is highlighted in bold print

MADYLISGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALTKKIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY **GSG**LLCGAAI GTHEDDKYRL DLLAQAGVDV VVLDSSQGNS
IFQINMIKYI KDKYPNLQVI GGNVVTAAQA KNLIDAGVDA LRVGMGSGSI
CITQEVLAGG RPQATAVYKV SEYARRFGVP VIADGGIQNV GHIKALALG
ASTVMMGSLI AATTEAPGEY FFSDGIRLKK YRGMGSLDAM DKHLSSQNRV
FSEADKIKVA QGVSGAVQDK GSIHKFVPYL IAGIQHSCQD IGAKSLTQVR
AMMYSGELKF EKRTSSAQVE GGVHSLHSYE KRLF

09853918-051001

Figure 9

The nucleotide sequence of type II, IMPDH-GSG cDNA

atggccgactacctgattagtgggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaactgcgagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagacccactggtttctctcccatg
gacacagtcacagaggtgggatggccatagcaatggcgcttacaggcggtattggcttcacaccaca
actgtacacctgaattccaggccaatgaagttcggaaagtgaagaaatatggttccggcctgctgtgtgg
ggcagccattggcactcatgaggatgacaagtataggtggacttgctcgccaggctgggtgtggatgta
gtggttttgactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagacaaat
accctaagtctccaagtcattggaggcaatgtggtcactgctgccaggccaagaacctcattgatgcagg
tgtggatgcctgcggtgggcatgggaagtggctccatctgcattacgcaggaagtgtggcctgtggg
cggccccaagcaacagcagtgtagaaggtgtcagagtatgcacggcgctttggtgttccggctcattgctg
atggaggaatccaaaatgtgggtcatattgcgaaagccttggcccttggggcctccacagtcatgatggg
ctctctcctggctgccaccactgaggccctgggtgaatacttcttttccgatgggatccggctaagaaa
tatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatctcagtgaag
ctgacaaaatcaaagtggccaggagtgctggtgctgtgcaggacaaagggtaatccacaaatttgt
cccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgacccaagtccga
gccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaaggtggcgctc
atagcctccattcgatgagaagcggcttttctga

051001-051001

Figure 10

The amino acid sequence of the modified IMPDH-SPT polypeptide 384 residues.

The substitute tri-peptide SPT sequence is highlighted in bold print.

MADYLISGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALT~~TK~~KIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY **SPT**LLCGAAI GTHEDDKYRL DLLAQAGVDV VVLDSSQGNS
IFQINMIKYI KDKYPNLQVI GGNVVTAQA KNLIDAGVDA LRVGMGSGSI
CITQEVLAGG RPQATAVYKV SEYARRFGVP VIADGGIQNV GHIKALALG
ASTVMMGSLA AATTEAPGEY FFSDGIRLKK YRGMGSLDAM DKHLSSQNRV
FSEADKIKVA QGVSGAVQDK GSIHKFV~~PY~~L IAGIQHSCQD IGAKSLTQVR
AMMYSGELKF EKRTSSAQVE GGVHSLHSYE KRLF

095318-051001

Figure 11

The nucleotide sequence of type II, IMPDH-SPT cDNA

atggcggactacctgattagtgggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaactgcgagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagaccccactggtttcctctcccatg
gacacagtacagaggctgggatggccatagcaatggcgcttacaggcggtattggcttcacaccaca
actgtacacctgaattccaggccaatgaagttcggaagtgagaatattctccgactctgctgtgtgg
ggcagccattggcactcatgaggatgacaagtataggctggacttgctcgcccaggctgggtgtggatga
gtgggtttggactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagacaaat
accctaattctccaagtcattggaggcaatgtggtcactgctgccaggccaagaacctcattgatgcagg
tgtggatgccctgcgggtgggcatgggaagtggctccatctgcattacgcaggaagtgtggcctgtggg
cgcccccaagcaacagcagtgtaaaaggtgtcagagtatgcacggcgctttgggtgttccggtcattgctg
atggaggaatccaaaatgtgggtcatattgcgaaagccttggcccttggggcctccacagtcattgatggg
ctctctcctggctgccaccactgaggccctggtgaatacttcttttccgatgggatccggctaaagaaa
tatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatttcagtgaag
ctgacaaaatcaaagtggcccagggaagtgtctggtgctgtgcaggacaaagggccaatccacaaatttgt
cccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgacccaagtccga
gccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaaggtggcgctcc
atagcctccattcgatgagaagcggcttttctga

Figure 12

The nucleotide sequence of type II, IMPDH-SPTQ cDNA

atggccgactacctgattagtgggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaactgcgagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagacccactggtttctctcccatg
gacacagtcacagaggctgggatggccatagcaatggcgcttacaggcggtattggcttcacccaccaca
actgtacacctgaattccaggccaatgaagttcggaaagtgaagaaatattctccgactcagctgctgtg
tggggcagccattggcactcatgaggatgacaagtataggctggacttgctcgcccaggctgggtgtggat
gtagtggttttggactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagaca
aataccctaattctccaagtcattggaggcaatgtggctcactgctgccaggccaagaacctcattgatgc
aggtgtggatgcctgcggtgggcatgggaagtggctccatctgcattacgcaggaagtgtctggcctgt
ggcgggccccaagcaacagcagtgtaagggtgtcagagtatgcacggcgctttgggtgtccgggtcattg
ctgatggaggaatccaaaatgtgggtcatattgcgaaagccttggcccttggggcctccacagtcattg
gggctctctcctggctgccaccactgaggccctgggtgaatacttcttttccgatgggatccggctaaag
aaatatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatttcagtg
aagctgacaaaatcaaagtggcccaggagtgctgtggtgctgtgcaggacaaagggtaatccacaaatt
tgtcccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgacccaagtc
cgagccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaaggtggcg
tccatagcctccattcgatgagaagcggcttttctga

09853918-051001

Figure 13

The amino acid sequence of the modified type II, IMPDH-AGRP polypeptide
385 residues

The substitute tetra-peptide AGRP sequence is highlighted in bold print.

MADYLISSGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALTKKIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY **AGRP**LLCGAA IGTTHEDDKYR LDLLAQAGVD VVVLDSQGN
SIFQINMIKY IKDKYPNLQV IGGNVVTAAQ AKNLIDAGVD ALRVGMGSGS
ICITQEVLAC GRPQATAVYK VSEYARRFGV PVIADGGIQN VGHIAKALAL
GASTVMMGSL LAATTEAPGE YFFSDGIRLK KYRGMGSLDA MDKHLSSQNR
YFSEADKIKV AQGVSGAVQD KGSIHKFVPY LIAGIQHSCQ DIGAKSLTQV
RAMMYSGELK FEKRTSSAQV EGGVHSLHSY EKRLF

09853918-051001

Figure 14

The nucleotide sequence of type II, IMPDH-AGRP

atggccgactacctgattagtgggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaaetgCGGagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagacccccactggtttcctctcccatg
gacacagtCACagaggctgggatggccatagcaatggcgcttacaggcggtattggcttcacaccaca
actgtacacctgaattccaggccaatgaagttcgaaagtgaagaaatatgctggtcgtccgctgctgtg
tggggcagccattggcactcatgaggatgacaagtataggctggacttgctcgcccaggtgggtgtggat
gtagtggttttggactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagaca
aataccctaattctccaagtcattggaggcaatgtggtcactgctgcccaggccaagaacctcattgatgc
aggtgtggatgcctgcgggtgggcatgggaagtggctccatctgcattacgcaaggaagtgtggcctgt
ggcgggccccaagcaacagcagtgtaaaaggtgtcagagtatgcaaggcgctttgggtgttcgggtcattg
ctgatggaggaatccaaaatgtgggtcatattgcgaaagccttggcccttggggcctccacagtcattgat
gggctctctcctggctgccaccactgaggccccctgggaatacttcttttccgatgggatccggctaaag
aaatatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatttcagtg
aagctgacaaaatcaaagtggcccagggaagtgtctgggtgctgtgcaggacaaaggtcaatccacaaatt
tgtcccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgaccaagtc
cgagccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaaggtggcg
tccatagcctccattcgtatgagaagcggttttctga

0953918-051001

Figure 15

The amino acid sequence of type II, modified IMPDH-NSPL polypeptide

The substitute tri-peptide is highlighted in bold print

MADYLISSGGT SYVPDDGLTA QQLFNCGDGL TYNDFLILPG YIDFTADQVD
LTSALTKKIT LKTPLVSSPM DTVTEAGMAI AMALTGGIGF IHHNCTPEFQ
ANEVRKVKKY **NSPL**LLCGAA IGTTHEDDKYR LDLLAQAGVD VVVLDSQGN
SIFQINMIKY IKDKYPNLQV IGGNVVTAAQ AKNLIDAGVD ALRVGMGSGS
ICITQEV LAC GRPQATAVYK VSEYARREGV PVIADGGIQN VGHIKALAL
GASTVMMGSL LAATTEAPGE YFFSDGIRLK KYRGMGSLDA MDKHLSSQNR
YFSEADKIKV AQGVSGAVQD KGSIHKFVPY LIAGIQHSCQ DIGAKSLTQV
RAMMYSGELK FEKRTSSAQV EGGVHSLHSY EKRLF

09853918, 05.10.01

Figure 16

The nucleotide sequence of type II, IMPDH-NSPL cDNA

atggccgactacctgattagtgggggcacgtcctacgtgccagacgacggactcacagcacagcagctct
tcaactgcgagacggcctcacctacaatgactttctcattctccctgggtacatcgacttcactgcaga
ccaggtggacctgacttctgctctgaccaagaaaatcactcttaagacccactggtttcctctccatg
gacacagtacagaggctgggatggccatagcaatggcgcttacaggcggtattggcttcacccaccaca
actgtacacctgaattccaggccaatgaagttcggaagtgaagaaatataactctccgcttctgctgtg
tggggcagccattggcactcatgaggatgacaagtataggctggacttgctcgcccaggctgggtgtggat
gtagtggttttggactcttcccagggaattccatcttccagatcaatatgatcaagtacatcaaagaca
aataccctaattctccaagtcattggaggcaatgtggtcactgctgccaggccaagaacctcattgatgc
aggtgtggtatgcctgcggtgggcatgggaagtggctccatctgcattacgcaggaagtgtggcctgt
ggcgggcccaagcaacagcagtgtaacaggtgtcagagtatgcacggcgctttgggtgtccgggtcattg
ctgatggaggaatccaaaatgtgggtcatattgcgaaagccttggcccttggggcctccacagtcattg
gggctctctcctggctgccaccactgaggccctgggtgaatacttcttttccgatgggatccggctaaag
aaatatcgcggtatgggttctctcgatgccatggacaagcacctcagcagccagaacagatatttcagt
aagctgacaaaatcaaagtggccaggagtgctgtggtgctgtgcaggacaaagggtcaatccacaaatt
tgtcccttacctgattgctggcatccaacactcatgccaggacattgggtgccaagagcttgacccaagtc
cgagccatgatgtactctggggagcttaagtttgagaagagaacgtcctcagcccagggtggaagggtggcg
tccatagcctccattcgatgagaagcggttttctga

09853918.05.1001

Figure 17

The amino acid sequence of the type I modified IMPDH-DKT polypeptide

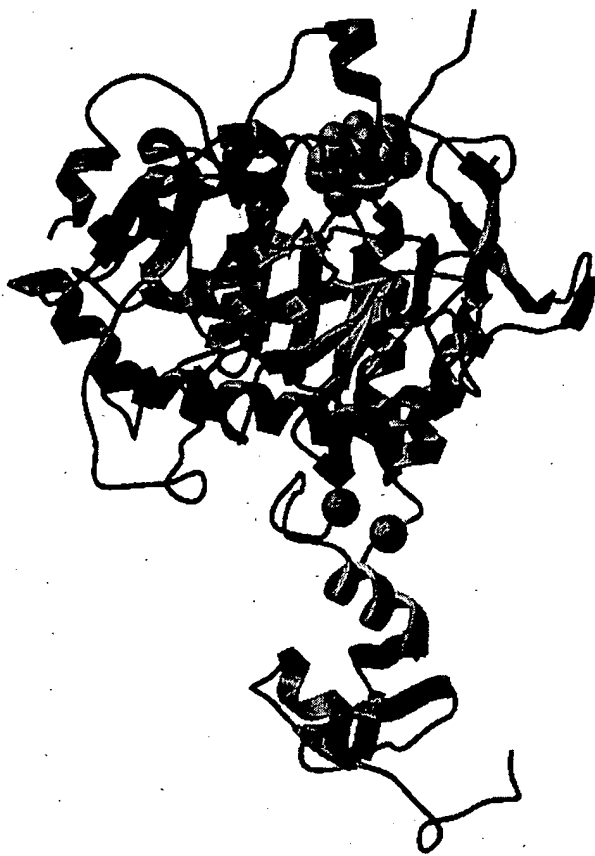
The substitute tri-peptide DKT is highlighted in bold print

MADYLISGGT GYVPEDGLTA QQLFASADGL TYNDFLILPG FIDFIADEV
LTSALTRKIT LKTPLISSPM DTVTEADMAI AMALMGGIGF IHHNCTPEFQ
ANEVRKVKKF **DKT**LLCGAAV GTREDDKYRL DLLTQAGVDV IVLDSSQGNS
VYQIAMVHYI KQKYPHLQVI GGNVVTAAQA KNLIDAGVDG LRVGMGCGSI
CITQEVMACG RPQGTAVYKV AEYARRFGVP IIADGGIQT V GHVVKALALG
ASTVMMGSL L AATTEAPGEY FFSDGVRLKK YRGMGSLDAM EKSSSSQKRY
FSEGDKVKIA QGVSGSIQDK GSIQKFVPYL IAGIQHGCQD IGARSLSVLR
SMMYSGELKF EKRTMSAQIE GGVHGLHSYE KRLY

109853918-051001

Figure 18

A schematic representation of the distance that the substitute oligo-peptides are designed to span in a folded modified IMPDH polypeptide.



CATALYTIC CORE
DOMAIN

SUBDOMAIN

Figure 19

The Rate of NADH Production at 37 °C for Wild-Type IMPDH (type II) and Various Modified IMPDH Multimers.

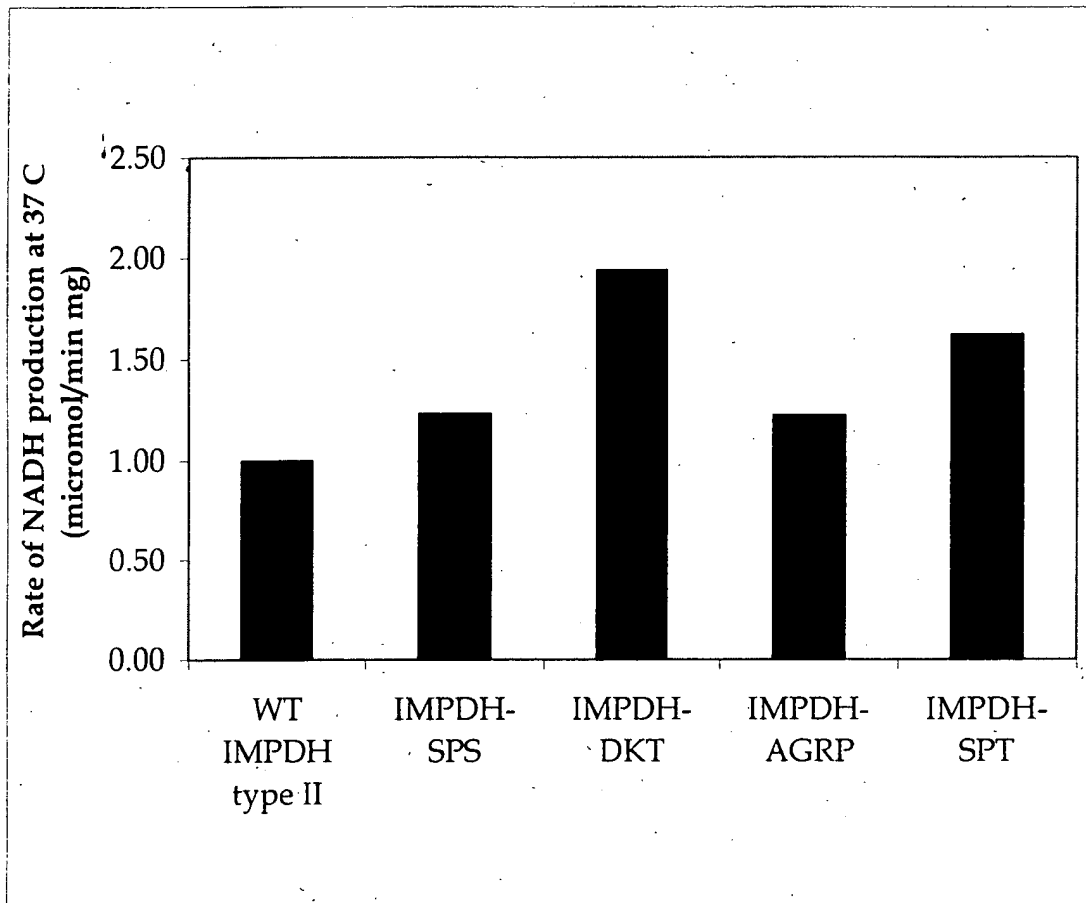
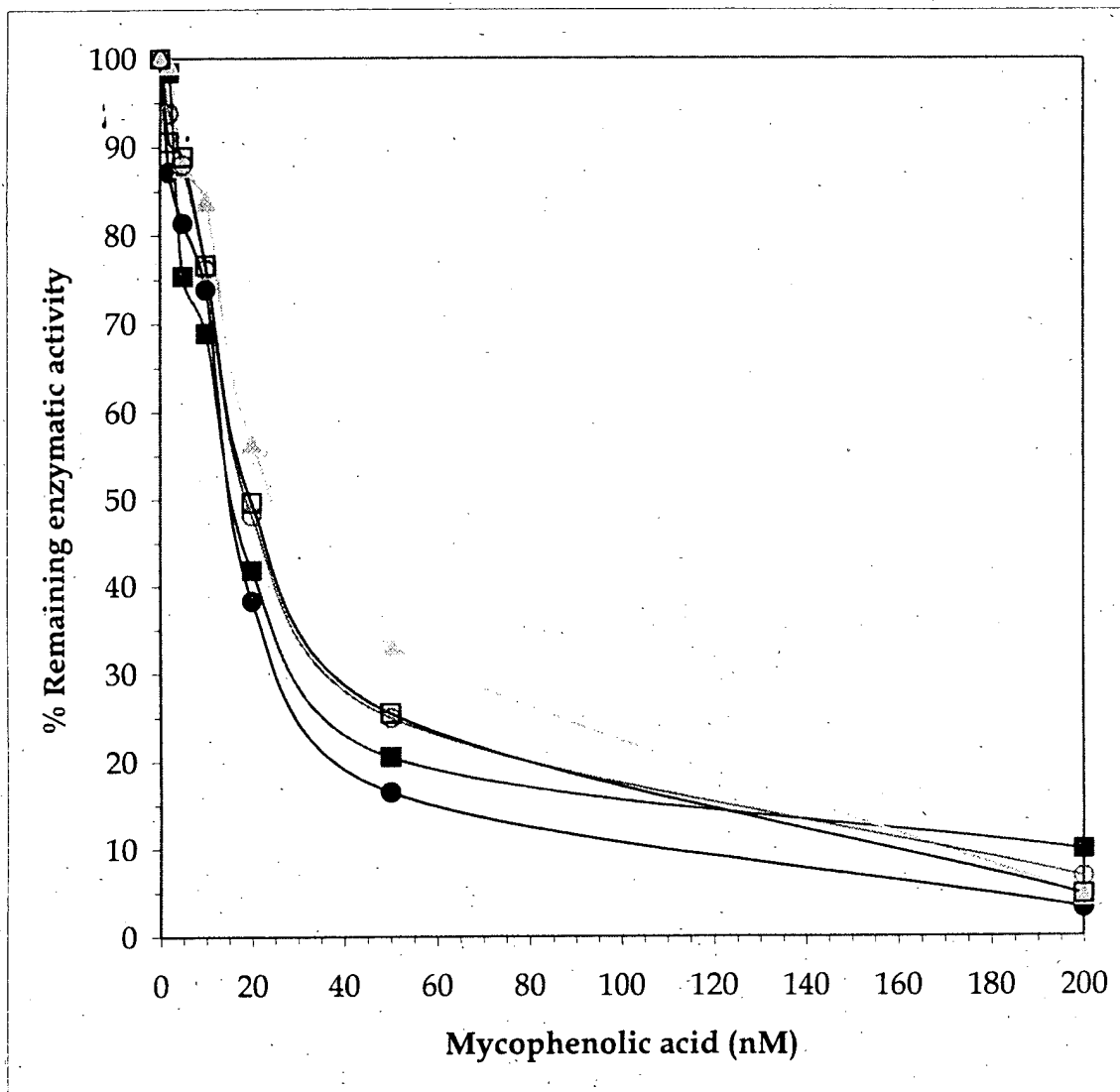


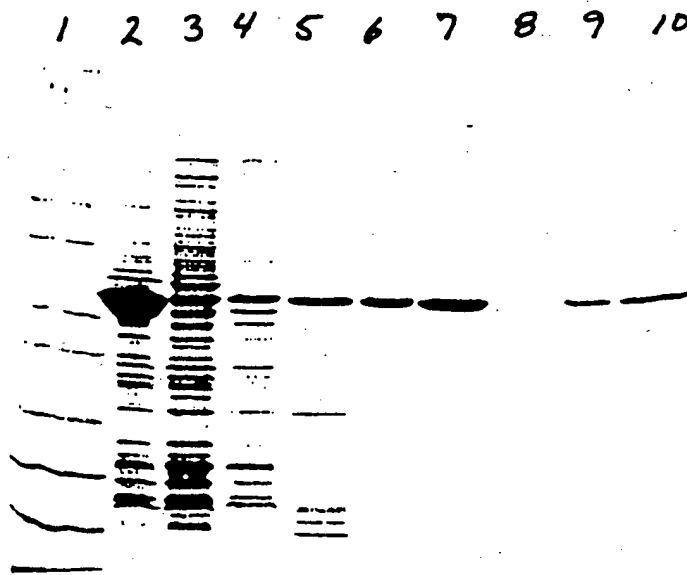
Figure 20

MPA Inhibits the Activity of Various Modified IMPDH Polypeptides.



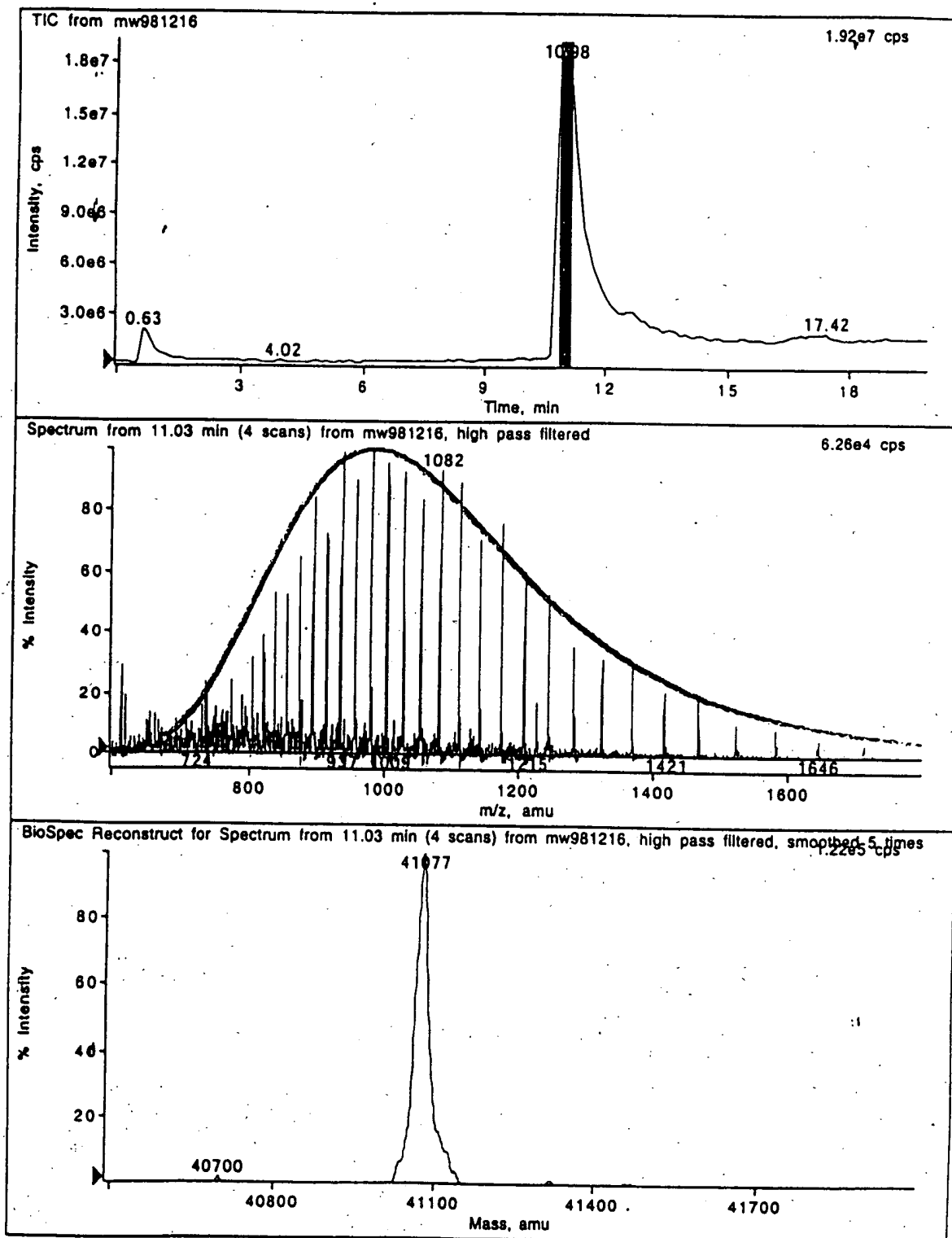
- wild-type, type II IMPDH
- type II, IMPDH-AGRP
- type II, IMPDH-SPS
- type II, IMPDH-SPT
- ▲ type II, IMPDH-DKT

FIGURE 21



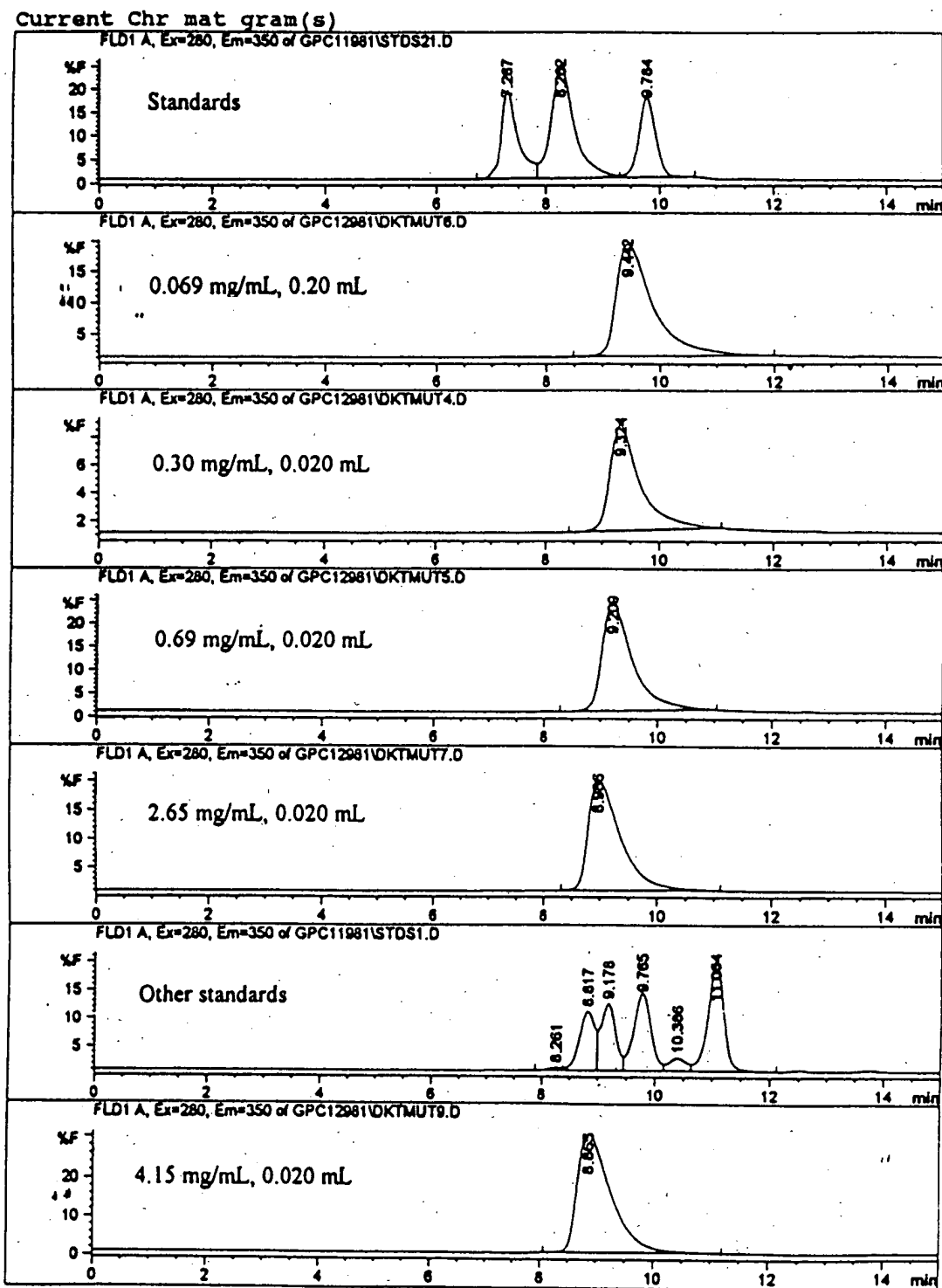
- Lane #
- 1: Novex standards (25 μ L)
 - 2: Total cell lysate (1 μ L, 12 μ g; before ultracentrifugation)
 - 3: Soluble lysate (2.5 μ L, 10 μ g; after 100,000 \times g, 1 hr, 4 $^{\circ}$ C)
 - 4: Unbound AE sample (13 μ L, \sim 10 μ g)
 - 5: Blue dye column, frs. #32-70 (25 μ L, 4.5 μ g)
 - 6: IMP affinity column, IMP eluted (10 μ L, \sim 1.5 μ g)
 - 7: IMP affinity column, IMP eluted (20 μ L, \sim 3.0 μ g)
 - 8: Unbound protein to IMP column (25 μ L, \sim 2.0 μ g)
 - 9: IMP affinity column (from AE fr. #1-10, 10 μ L, 1.2 μ g)
 - 10: IMP affinity column (from AE fr. #1-10, 25 μ L, 3.0 μ g)

FIGURE 22



200508150860

FIGURE 23



100150-876585D

Figure 24

The nucleotide sequence of type I, IMPDH-DKT

atggcggactacctgatcagcggcgccacgggtacgtgcccaggatgggctcaccgcgcagcagctct
tcgccagcgcgcagcgccctcacctacaacgacttcctgattctcccaggattcatagacttcatagctga
tgaggtggacctgacctcagccctgacccggaagatcacgctgaagacgccactgatctcctcccccattg
gacctgtgacagaggctgacatggccattgccatggctctgatgggaggtattggtttcattcaccaca
actgcaccccagagttccaggccaacgaggtgcggaaggtcaagaagtttgacaaaacctgctctgtgg
ggcagctgtgggcacccgtgaggatgacaaataccgtctggacctgctcaccaggcgggcgctcgacgtc
atagtcttggactcgtcccaagggaattcggtgtatcaaatacgccatggtgcattacatcaaacagaagt
acccccacctccaggtgattggggggaacgtggtgacagcagcccaggccaagaacctgattgatgctgg
tgtggacgggctgcgcgtgggcatgggctgcccgtccatctgcatcaccagggaagtgatggcctgtggt
cggccccagggcactgctgtgtacaaggtggctgagtatgccggcgctttggtgtgcccatcatagccg
atggcggcatccagaccgtgggacacgtggtcaaggccctggcccttgagacctccacagtgatgatggg
ctcctgctggcgccactacggaggccctggcgagtacttcttctcagacggggtgcccgtcaagaag
taccggggcatgggctcactggatgccatggagaagagcagcagcagccagaaacgatacttcagcgagg
gggataaagtgaagatcgcgaggggtgtctcgggctccatccaggacaaaggatccattcagaagttcgt
gccctacctcatagcaggcatccaacacgggtgccaggatatcgggggccgcagcctgtctgtccttcgg
tccatgatgtactcaggagagctcaagtttgagaagcggaccatgtcgggccagattgaggggtggtgtcc
atggcctgcactcttacgaaaagcggctgtactga

0905318-051001